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## A Psycholegal and Empirical Approach to the Medical Standard of Care

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# A Psycholegal and Empirical Approach to the Medical Standard of Care

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## I. INTRODUCTION

### A. Overview

This manuscript analyzes medical malpractice law from the perspective of psycholegal jurisprudence. The discussion begins with a summary of how tort law functions to serve the needs of patients who have been harmed by medical malpractice. The underlying assumption of the psycholegal approach is that the law acts most fundamentally to educate patients, physicians, and lawyers about morally acceptable professional behavior. Based on this assumption I argue that replacing implicit standards of medical care with empirically derived guidelines would better serve patients and physicians alike.

In support of this thesis I first present a detailed summary of malpractice law featuring the role of expert witnesses in litigation. The theme of the manuscript is that by treating disputes as experimental stimuli and expert physicians as respondents, it is possible to experimentally evaluate judgments made by physicians concerning alternative treatment plans associated with each medical dispute. This experimental approach allows the researcher to empirically derive explicit standards of care for common types of malpractice cases. Included is a discussion of the reasons why an empirical technique used to define medical standards of care should be guided not only by the requirements of rigorous scientific methods but also by legal doctrine. Specifically, I examine some of the issues involved in sampling a group of physicians whose testimony would be accepted in various jurisdictions.

Following a detailed discussion of relevant law is an examination of past attempts to reform malpractice doctrine. Analyses based on empirical and economic approaches, as well as an analysis based on psycholegal jurisprudence support the proposition that explicit standards would be useful in preventing and litigating malpractice disputes. I argue that the use of such standards would have distinct advantages over previous reforms in the medical malpractice adjudication process. I next present a decision aid methodology borrowed from cognitive and social psychology that allows standards of care to be defined by sampling the customary and normative practices of a legally relevant group of expert physicians. The manuscript ends with a discussion of some of the specific advantages of the empirical methodology.

### B. Tort Law and Victims of Medical Malpractice

In the final analysis the standard that speaks most directly to the efficacy of the modern medical malpractice system is the quality of

care available to patients.<sup>1</sup> The tort system serves at least four separate functions, each of which influences the quality of available care. First, dispute resolution appeals to the retributive interests of those who have been injured. When caused by a culpable party, medical errors or "accidents" often engender a need for personal and social pay back. Victims of medical malpractice use the tort system so that "wrongdoers can be . . . called to account and made to pay for their transgressions."<sup>2</sup>

Second, malpractice law provides compensation for injury suffered by patients at the hands of negligent physicians. However, it is doubtful that the tort system is an adequate source of compensation for a significant number of plaintiffs. Although average jury awards for malpractice cases rose from \$404,726 in 1980 to \$954,858 in 1983,<sup>3</sup> it has been reported that estimates of the amount plaintiffs actually received ranged from a low of 18 percent to a high of only 54 percent of the total awards.<sup>4</sup> The rest of these funds were used to pay legal and administrative fees. Further evidence comes from data collected in California during the mid-1970's that documents the small likelihood that tort claims result from iatrogenic harm. Relying on this data, one researcher<sup>5</sup> estimated that only 20 percent of negligently inflicted injuries are likely to lead to tort claims. Furthermore, only four paid claims resulted from every 100 injuries. Although the generalizability of this data is limited by sample location as well as adequacy of measuring devices, it does suggest that a relatively small group of injured patients receive most of the tort recoveries, and that the recoveries are substantially reduced by the costs of running the tort system, for example, attorney fees and other litigation costs.

Third, it is argued that a function of tort law is to reduce the prevalence of substandard care by deterring physicians from engaging in negligent conduct. Intuitive theories of physician behavior predict that the threat of tort action causes doctors to avoid the kinds of negligent error that result in large recoveries for plaintiffs and higher insurance premiums for themselves. However, "[e]mpirical data are almost wholly lacking. . . ."<sup>6</sup> A review of the available empirical research suggests that individual plaintiffs collect large sums of money from malpractice claims, yet not enough victims bring causes of action

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1. Bovbjerg, *Medical Malpractice on Trial: Quality of Care is Still the Important Standard*, 49 LAW & CONTEMP. PROBS. 321 (1986).

2. *Id.* at 325.

3. Jury Verdict Research, Inc., *Injury Valuation Reports*, 292 CURRENT AWARD TRENDS 18 (1985).

4. Zuckerman, Koller, & Bovbjerg, *Information on Malpractice: A Review of Empirical Research on Major Policy Issues*, 49 LAW & CONTEMP. PROBS. 85 (1986).

5. DANZON, *MEDICAL MALPRACTICE: THEORY, EVIDENCE, AND PUBLIC POLICY* (1985).

6. Bovbjerg, *supra* note 1, at 329.

to effectively deter medical negligence.<sup>7</sup>

A final function of medical malpractice law is to act as a moral educator for physicians and plaintiffs. Some law and psychology scholars argue that the law acts primarily to "establish the structures for implementation of the values" of society and "to announce social norms, to provide cues for moral behavior."<sup>8</sup> An emerging school of psycholegal jurisprudence views the law not as an agent that alters the basic values of the community but rather as an educator that informs the members of the community about morally appropriate behavior in a variety of circumstances. The force of the law as a behavioral instrument lies not in its coercive or deterrent capabilities, but rather in its ability to motivate through symbolic meaning. Under this analysis, tort law in general and malpractice law specifically shape behavior by providing examples, expectancies, and behavioral cues that direct and motivate reasonably prudent behavior. It instructs potential tortfeasors about the standards of care that should guide their ordinary and professional behavior. It is in the role as professional educator that tort law may have its most profound impact on the quality of care available to patients.

### C. The Need for an Explicit Standard of Care

It is the major thesis of this paper that medical malpractice law falls short as a moral educator. It is unable to instruct physicians, patients, and attorneys about the social expectations of doctors treating specific problems because it relies on an implicit standard of care that is never fully articulated. The standard of care to which doctors are held accountable is the customary care adhered to by practicing physicians.<sup>9</sup> The standard is only made explicit when a patient brings a medical malpractice suit, and then it is based only on the testimony of one or two members of the profession. In defense of implicit standards of care, one might point out that the law is in a constant state of flux and that it would be difficult to develop rules to accommodate all conceivable medical problems. However, this excuse does not prevent the law from formulating temporary but explicit standards for the more common medical procedures. The temporary nature of medical standards of care necessitate that any empirical system used to codify guidelines be easily repeatable at later times so that the standards themselves may be easily modified. Despite these limitations, the fact that the standard is constantly changing should not prevent the law from making explicit the temporary consensus that is meant to guide

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7. DANZON, *supra* note 5.

8. Melton & Saks, *The Law as an Instrument of Socialization and Social Structure*, 33 NEBRASKA SYMPOSIUM ON MOTIVATION 235 (1985).

9. Keeton, *Medical Malpractice: The Standard of Care*, 10 TEX. TECH L. REV. 351 (1977).

the behavior of physicians and shape the expectations of patients. The medical standard is a guideline based on custom, and in the final analysis custom is an empirical question. Only when the law defines customary practice in specific terms will it function as a moral educator of physicians.

The remainder of this manuscript discusses the need to make the standard of care owed by physicians explicit. The need for an explicit standard is discussed primarily from the perspective of psycholegal jurisprudence. Ultimately, I present a methodology borrowed from decision making and applied social psychology which may be used to develop an empirical standard of care in medical malpractice law. Specifically, I advocate the use of a variant of Multiple Attribute Utility Theory (MAUT) to explicate the standard of care as it is implicitly understood by a consensus of practicing physicians. Before presenting this model it is necessary to highlight in some detail professional negligence law as it pertains to medical malpractice. While the specific techniques that make up MAUT are psychological in nature, applying the decision aid to a legal problem requires a sophisticated understanding of the law.

## II. THE LAW OF PROFESSIONAL NEGLIGENCE

### A. The Medical Standard of Care and Harm Caused by its Breach

The law holds professionals to a standard of care different than ordinary duty:

Unless he represents that he has greater or less skill or knowledge, one who undertakes to render services in the practice of a profession or trade is required to exercise the skill and knowledge normally possessed by members of that profession or trade in good standing in similar communities.<sup>10</sup>

According to this language, members of learned professions who possess skill and knowledge that exceed that of the ordinary person are required to maintain their professional conduct at a level that is consistent with the skill and knowledge normally possessed and exercised by other members of their profession in similar circumstances.<sup>11</sup>

The determination of whether the professional has demonstrated the customary standard of care usually requires the expert testimony of some member of the defendant's profession.<sup>12</sup> This is in contrast to ordinary negligence in which the standard of care owed is evaluated from the perspective of the reasonably prudent person acting in similar circumstances. However, in cases of professional negligence the

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10. RESTATEMENT (SECOND) OF TORTS § 299A (1965).

11. King, *In Search of a Standard of Care for the Medical Profession: The 'Accepted Practice' Formula*, 28 VAND. L. REV. 1213, 1235 (1975).

12. *Id.* 1236.

law requires testimony of an expert to assist the fact finder in establishing the professional standard of care because the typical juror is not well enough versed in the conduct of the profession to be able to do so without assistance.

As applied in cases of medical malpractice, the professional standard of care is the knowledge, skill, and judgment customarily possessed and applied by some community of physicians acting in similar or like cases. Whereas custom is merely evidence of ordinary care in the law of ordinary negligence, it is conclusive in cases of medical negligence. In most medical malpractice cases the law requires that the standard of care be established through the expert testimony of a physician, unless the defendant doctor's conduct is so obviously negligent that it is within the common knowledge of a jury to conclude that the conduct was unacceptable under the conditions of the case at bar.<sup>13</sup>

An example of the need for expert testimony in medical malpractice negligence was outlined in *Koch v. Gorrilla*.<sup>14</sup> The court concluded that because the plaintiff had not proffered an expert witness familiar with the customary standard of care in either the defendant's community or a similar community, there was no cause of action for wrongful death of the plaintiff's husband arising from negligence in treating the decedent's ruptured appendix. The *Koch* Court, quoting the Michigan Supreme Court in *Lince v. Monson*,<sup>15</sup> stated the law as follows:

In a case involving professional service the ordinary layman is not equipped by common knowledge and experience to judge of the skill and competence of that service and determine whether it squares with the standard of such professional practice in the community. For that, the aid of expert testimony from those learned in the profession involved is required.<sup>16</sup>

This language summarizes the law of most jurisdictions.

The only cases in which expert witnesses are not needed to establish the due care owed to patients are those rare situations in which jurors possess sufficient common knowledge to decide whether the actions of physicians constitute malpractice. Some vivid examples of these cases include,

when a surgeon sews up in his patient a lap pack, a sponge, or a jagged piece of glass from a broken test tube. . . . Expert evidence is not required in cases of clear neglect of or inattention to the patient by the doctor, because resolving such cases does not require any understanding of technical medical knowledge

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13. For a review of case law holding that an expert witness is needed to establish the customary standard of care in medical malpractice see generally, F. HARPER, F. JAMES, & O. GRAY, *THE LAW OF TORTS* § 17.1 at 551-59 (1986), and D. LOUISELL & H. WILLIAMS, *MEDICAL MALPRACTICE* § 29.01 (1989).

14. 552 F.2d 1170 (6th Cir. 1977):

15. 363 Mich. 135, 139-140, 108 N.W.2d 845, 847-48 (1961).

16. *Koch v. Gorrilla*, 552 F.2d 1170, 1174 (6th Cir. 1977).

and skill of their application.<sup>17</sup>

For example, in *Waynick v. Reardon*,<sup>18</sup> the court held that expert testimony was not necessary to establish the standard of care when perforation of a patient's veins and arteries during minor surgery caused the patient to suffer a heart attack, amputation of both legs and drug addiction. Therefore, in those cases in which a physician commits a clerical error by inadvertence or forgetfulness which leads to an injury that would not have occurred without gross carelessness most courts allow juries to infer negligence without the aid of expert testimony.<sup>19</sup>

In summary, the law defines the duty of physicians according to the existing community of professional behavior. It is peculiar that while the courts recognize the professionals themselves as the only appropriate population from which to fashion a duty of care for physicians, the courts are willing to allow the testimony of one or two experts to represent the behavior of an entire community of practitioners. From a psycholegal perspective, it is questionable whether a sample of one or two exceptional doctors are aware of and are able to articulate the customary practices of a community of colleagues. Unless one is willing to assume that all physicians adhere implicitly to the same standards of practice for a particular medical procedure, it is not obvious that one or two doctors, no matter how carefully they are selected, will be capable of summarizing the medical standard subscribed to by an entire community of physicians. Further, there is no reason to believe that expert witnesses are chosen because they are exceptionally well trained physicians. More likely, they are a sample biased toward compliance with either the plaintiff or defendant, depending upon who they represent in any particular case. If the objective of the law is to use expert witnesses to operationalize the medical standard of care, the validity of the approach (the veridicality of the evidence as an accurate estimate of customary practice) would be greatly enhanced if a larger sample of doctors were allowed to give testimony. If the sample were more representative of the community of physicians and if the biases of a variety of practitioners were considered, then the errors of each individual expert would be balanced by the countervailing biases of his or her colleagues.

After the plaintiff establishes the customary standard of care, he or she must proffer expert testimony to demonstrate that the defendant's actions breached the standard and that the negligent act of the defendant was the cause in fact and proximate cause of the harm suffered by the plaintiff.<sup>20</sup> In general, expert testimony must establish

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17. Byrd, *The North Carolina Medical Malpractice Statute*, 62 N.C.L. REV. 711, 714-15 (1984).

18. 236 N.C. 116, 72 S.E.2d 4 (1952).

19. Keeton, *supra* note 9, at 359.

20. F. HARPER, F. JAMES, & O. GRAY, *supra* note 13 and D. LOUISELL AND H. WIL-



that it is more probable than not that the defendant's act of negligence was responsible for the resulting harm. For example, in *Smith v. Knowles*,<sup>21</sup> Mrs. Smith, pregnant and apparently suffering from eclampsia — toxemia of pregnancy — was diagnosed by her physician only on the same day that the doctor admitted her to the hospital for treatment. She was administered magnesium sulphate to treat the condition, but it was too late to prevent the convulsions that claimed the lives of her and her unborn child. Unable to produce a physician to testify about the customary standard of care in diagnosis and treatment of eclampsia, the plaintiff relied on the testimony of the defendant, Dr. Knowles, and cross examination of the defendant with regard to medical treatises to try and establish the definition of standard care.<sup>22</sup> The court ruled that the plaintiff had not presented expert testimony to show that Dr. Knowles had departed from the standard. There was no expert testimony that his diagnosis, given the facts of the case, was so untimely as to be in violation of the customary standard of care.<sup>23</sup> The court went on to say:

Even more troubling, however, is the lack of expert testimony on the causation elements of the plaintiff's claims. . . . The plaintiff had the burden to prove, by expert testimony, that . . . it was more probable that death resulted from some negligence for which the defendant was responsible than from something for which he was not responsible.<sup>24</sup>

A showing that the defendant breached a duty and that the breach was the cause in fact and proximate cause of the injury suffered is an essential ingredient in all cases of negligence and of special concern in professional malpractice law. Medical malpractice cases like *Smith* may turn on proof of causality. Because the plaintiff is required to proffer expert witnesses to establish causality, and because the courts rely on the evidence of only a few physicians, the same sampling concerns that are discussed above in connection with establishing the standard of care apply to drawing accurate conclusions of breach of duty and causality. However, the purpose of this manuscript lies in establishing empirical definitions of medical standards of care. Although establishing empirical evidence for breach of duty and its consequential harm is within the capabilities of psychological research, a psycholegal analysis of breach of duty and causality are beyond the boundaries of this discussion.

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LIAMS, *supra* note 13, at § 29.02, present collections of the case law in a variety of jurisdictions supporting this point in medical malpractice law and other areas of professional negligence.

21. 281 N.W.2d 653 (Minn. 1979).

22. The court held that because Minnesota adopted FED. R. EVID. 803(18), medical treatises were allowed to be admitted as substantive evidence once they are shown to be reliable authorities. *Id.* at 656.

23. *Id.*

24. *Id.* (quoting *Silver v. Redleaf*, 292 Minn. 463, 465, 194 N.W.2d 271, 273 (1972)).

## B. Qualifications of Expert Witnesses

An empirical definition of medical standards of care needs to very carefully select populations of physicians from which to draw a sample. The sample must not be representative of merely any group of qualified doctors. It must be drawn from a sample of physicians who possess "skill and knowledge normally possessed by members of that profession of trade in good standing."<sup>25</sup> In other words, the sample must not only be externally valid from a scientific perspective, it must also be legally valid according to the law of the jurisdiction in which it will be proffered as evidence. Although there are some generalities across states, the legal definition of standard of care varies somewhat from jurisdiction to jurisdiction. Therefore, expert witness qualifications also vary across states. For the purposes of presenting evidence in malpractice disputes, researchers need to be sure that their samples agree with the court's holdings with regard to locality rules, specialist issues and knowledge qualifications for expert witnesses.

### 1. Locality

Probably the single most discussed qualification of expert witnesses has been familiarity with the standard of care in the community in which the defendant-physician has practiced. Historically, courts were reluctant to hold physicians in rural areas to the same standard of care as doctors from larger metropolises.<sup>26</sup> Because rural physicians were often isolated from news of medical advancements, it was reasoned that they should not have been held accountable for mastering the advanced technology available in the larger cities. This philosophy was translated into common law by the strict "locality rule" which required that expert witnesses be familiar with the customary practice of the physicians who treated patients in the community in which the defendant practiced.<sup>27</sup> For example, Maryland courts follow *Dunham v. Elder*,<sup>28</sup> which states that "the plaintiff must show that the defendant-physician failed to exercise the amount of care, skill and diligence . . . which is exercised generally in the community. . . . in which he was practicing."<sup>29</sup> However, in *Raitt v. Johns Hopkins Hospital*,<sup>30</sup> the Maryland Court of Appeals stated "the expert

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25. RESTATEMENT (SECOND) OF TORTS § 299A (1965).

26. Kibble-Smith & Hafner, *The Effect of the Information Age on Professional Liability*, 36 DE PAUL L. REV. 69, 71 (1986).

27. For a review of the case law concerning the current status of the locality rule see, Annotation, *Malpractice Testimony: Competency of Physician or Surgeon from One Locality to Testify, in Malpractice Case, as to Standard of Care Required of Defendant Practicing in Another Locality*, 37 A.L.R.3d 420 (1971).

28. 18 Md. App. 360, 306 A.2d 568 (1973).

29. *Id.* at 364, 306 A.2d at 571 (quoting *State v. Fishel*, 228 Md. 189, 195, 179 A.2d 349, 353 (1962)).

30. 274 Md. 489, 336 A.2d 90 (1975).

witness need only possess such knowledge of the applicable standard of care as will enable him to render an informed opinion. There is no absolute requirement that he practice or reside in the defendant-physician's community."<sup>31</sup> The Maryland holdings are representative of strict locality rules.

Research undertaken to provide empirical definitions of standards of care in strict locality jurisdictions should sample only those physicians who practice in the defendant's community or for some special reason are knowledgeable about customary practice in that community. Fortunately, strict locality jurisdictions make up the minority of state courts.

According to some commentators,<sup>32</sup> courts criticized the strict locality rule because it held rural communities to a lower standard of care based on the fact that more efficacious technologies were not readily available in those areas. Holding rural areas to a lower standard of care assured that the medical treatment available to inhabitants of rural communities would be substandard. In addition, the strict locality rule limited expert witnesses to only those who were willing to testify against fellow doctors practicing in the same community. The reluctance of physicians to testify against other doctors, the "conspiracy of silence,"<sup>33</sup> made it very nearly impossible to bring a successful cause of action in smaller communities within jurisdictions that required expert witnesses to be familiar with the local standards of customary practice. The courts denied plaintiffs the opportunity to present physicians practicing in distant locations who would not be susceptible to local conspiracy of silence pressures.

As communication technology advanced and physicians in urban and rural areas became informed of medical advancements almost as rapidly as they appeared, the need for a strict locality rule has diminished.<sup>34</sup> In the words of the Court of Appeals of the D. C. Circuit: "Modern medical education and postgraduate training have been nationalized. Scientific information flows freely among medical institutions throughout the country. Professional journals and numerous other means of continuing education are national in scope."<sup>35</sup>

Influenced by the technological advancements in communications, many jurisdictions have liberalized the locality rule and have adopted less restrictive requirements for expert witnesses. Today, most jurisdictions follow the "similar locality" rule which has been summarized as "a physician's conduct is judged by the standard of care of a reason-

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31. *Id.* at 500, 336 A.2d at 96.

32. Kibble-Smith & Hafner, *supra* note 26.

33. Qual, *A Survey of Medical Malpractice Tort Reform*, 12 WM. MITCHELL L. REV. 417, 423 (1986).

34. *Robbins v. Footer*, 553 F.2d 123 (D.C. Cir. 1977).

35. *Id.* at 128.

ably competent physician practicing in the same or similar communities."<sup>36</sup> Thus, the expert witness must show that he is familiar with the customary care that is practiced either in the defendant's community or a community that is similar in terms of size, geographic location, and level of sophistication of medical technology.

Studies of medical standards in most jurisdictions should draw samples of physicians in accordance with the similar locality rule. Assuming all other factors are equal (i.e., professional and specialty status and knowledge of the procedure) doctors who practice in the defendant physician's community, or in other communities that are similar in size, location, and technology, should be familiar with the customary practices in the defendant's community or in similar communities. While it might be legally defensible to sample physicians who profess to be familiar with the standards of communities in which they do not practice, such sampling leaves the researcher open to the argument that the respondents were not knowledgeable of the defendant's community even though they might have reported to the researcher that they were knowledgeable of the customs.

On the other hand, in most jurisdictions it would be difficult to argue that a physician practicing in the defendant's community or in similar communities was not familiar with the customary standards of care within her or his own community of practice. This would be especially true if the physician had been practicing in that community for an extended period of time. It would be an unusual doctor who had a stable practice in a community, but who was not familiar with the standard of care in that community. Expanding this logic to an entire sample of respondents selected because they practiced in the defendant's community or a similar community makes it even more likely that the consensus of such a sample would be enlightened regarding the customs of the communities in which they practice.

Other responses to the strict locality rule fashioned a general neighborhood rule which allows physicians who practice in the same general neighborhood as the defendant to testify as experts. The general neighborhood is often interpreted as an extension of the strict locality rule so as to permit as expert witnesses physicians who do not live in the same community as the defendant, but who practice in a community within the same geographic area. For example, in *Fitzmaurice v. Flynn*<sup>37</sup> the court interpreted general neighborhood to mean that any physician practicing within the state was qualified, in terms of locality, to offer expert testimony against any other physician practicing in the state. In states with neighborhood rules, a legally valid sample should constitute a representative sample of physicians

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36. *Hansbrough v. Kosyak*, 141 Ill. App. 3d 538, 544, 490 N.E.2d 181, 185 (1986).

37. 167 Conn. 609, 356 A.2d 887 (1975).

who practice in either the defendant's community or neighboring areas. Under *Fitzmaurice*, such a sample would select only physicians who practiced within the borders of that state.

Given the status of modern communication networks the small town practitioner may have a duty to refer if he or she does not possess the equipment necessary for up to date treatment. It has been argued that rural physicians should no longer be protected by even liberal locality rules, given the widespread availability of current medical knowledge to physicians in even the most rural areas.<sup>38</sup> Others<sup>39</sup> argue that as access to electronically stored biomedical information becomes universal in the form of full text, computer assisted literature search devices, such as MEDIS,<sup>40</sup> there will be little practical reason to maintain anything other than a national standard of customary care. Some jurisdictions, although few in number, have indeed adopted a national standard of care. For example, in *Carbone v. Warburton*,<sup>41</sup> the New Jersey Supreme court failed to restrict the admissibility of an expert witness based on any locality considerations and this has been taken to support the conclusion that New Jersey follows a national standard of medical care.

If a national standard of care is adopted in a large number of states, then for the purposes of empirical definitions of standards of care, the locality attributes of a sample of physicians will become irrelevant. It is possible that the presumed differences in customary care that are protected by the various locality rules are not empirically verifiable. In other words, given the technological sophistication of today's modern communications networks, customary care for specific medical problems may not vary more among doctors practicing in different localities than they do among physicians practicing within the same locality. This is, of course, an empirical issue which can only be answered by comparing samples of physicians between and within local jurisdictions. Establishing empirical standards of care and comparing them across jurisdictions would go a long way toward determining whether locality rules are based on more than legal fictions.

## 2. *Standard of Care for Specialists*

An actor undertaking to render services may represent that he has superior skill or knowledge than that common to his profession or

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38. Michaud & Hutton, *Medical Tort Law: The Emergence of a Specialty Standard of Care*, 16 TULSA L.J. 720, 730 (1981).

39. Kibble-Smith & Hafner, *supra* note 26, at 87.

40. MEDIS is a full text computerized data base published by Mead Inc. It is similar to the LEXIS system familiar to legal scholars. MEDIS makes available to any physician who has access to a personal computer and modem, the full text of all major medical journal treatises.

41. 11 N.J. 418, 94 A.2d 680 (1953).

trade. In that event he incurs an obligation to the person to whom he makes such a representation, to have, and to exercise, the skill and knowledge which he represents himself to have. Thus a physician who holds himself out as a specialist in certain types of practice is required to have the skill and knowledge common to other specialists.<sup>42</sup>

It is well documented that most jurisdictions hold medical specialists to the skill and knowledge of other specialists.<sup>43</sup> In a recent case, *Snead v. United States*,<sup>44</sup> the court found in favor of a plaintiff who suffered from cervical cancer which her gynecologist failed to detect, in part, because he did not perform a PAP smear on the plaintiff when she complained of heavy menstrual periods. Applying a specialist standard the court stated, "[n]ationally-certified specialists in gynecology . . . [a]re required to have and to exercise that degree of care, skill and learning ordinarily possessed and used by a nationally-certified specialist in gynecology acting in the same or similar circumstances."<sup>45</sup>

Once again, the issue of qualifications is shaped by locality. Varying across jurisdictions, certified specialists are held to the customary standard of like specialists practicing in the same community, the same or similar communities, or the same state. Some courts, like the *Snead* court, have recognized that the national communication network is sufficiently advanced so that all specialists should be held to a common medical standard, irrespective of their geographic location. As with non-specialty standards of care, expert testimony is judged to be admissible or inadmissible based on the locality in which the expert-physician practices, and whether the expert is familiar with the customary practice of specialists in the locality of the defendant.

Although an expert witness need only be familiar with customary practice in the specialty area of the defendant physician, it would be prudent for research establishing empirical standards to select only those respondents who share with the defendant the specialty area of practice. Alternatively, it may be acceptable for a sample of mixed specialists and non-specialists to give evidence about a standard of care for a procedure normally performed by specialists but which was performed by a nonspecialist defendant in the case at bar. Any decision of whether to sample specialists or nonspecialists or some mixture of the two groups should be guided by the specialty rules of the jurisdiction in which the dispute arises. The only sure way to determine

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42. RESTATEMENT, (SECOND) OF TORTS § 299A comment d (1965).

43. For a review of the case law concerning the current status of the standard of care for specialists see Annotation, *Standard of Care Owed to Patient by Medical Specialist as Determined by Local, "Like Community," State, National, or Other Standards*, 18 A.L.R.4th 603 (1982).

44. 595 F. Supp. 658 (D.D.C. 1984).

45. *Id.* at 663.

whether a sample is likely to be legally valid is to examine the case law in the jurisdiction in which the cause of action is filed.

Because the medical profession has adopted a national standard for membership for most of its specialties, allowing geographic considerations to limit the quality of care required in less urbanized areas is indefensible.<sup>46</sup> Testimony of medical experts may very well show a great deal of variation, but it is doubtful whether the variation is attributable to geographic locality. Indeed, if the purpose of qualifying expert witnesses by locality is to protect the practitioner from standards of care that require technologies available only in urban centers, it is difficult to argue in favor of specialty standards of care that are limited by geography, given the sophistication of communication and transportation systems that are prevalent in our society. Whether these theories<sup>47</sup> are correct is an important issue in medical malpractice law. This presents a testable hypothesis that has pronounced implications for litigation. An appropriate test of the hypothesis requires comparing empirical standards of care among specialists and non-specialists within and across jurisdictions. The outcome would predict that the comparisons across geographic samples within the same specialties would show relatively little variation. Empirical studies of standards of care within and between specialty areas would indeed be informative to malpractice law.

### 3. *Knowledge Qualifications for Expert Witnesses*

The determination of the competency and qualifications of an expert witness is normally left to the discretion of the trial judge. Unless the judge has abused her or his discretion or shows a clear error arising from a misconception of law, appellate courts are reluctant to overturn a decision made by the trial court. Nonetheless, most jurisdictions follow the general rule that the medical expert must be familiar with the disputed procedure in the case at bar unless the procedure is so unique that the defendant is the only physician who is familiar with the technique.<sup>48</sup> At one time California courts required that the expert's familiarity result from direct "occupational experience" with the procedure in question.<sup>49</sup> Although California no longer adheres to the "occupational experience" rule,<sup>50</sup> Utah does require expert medical witnesses to have personal experience performing the disputed

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46. Michaud & Hutton *supra* note 38.

47. *Id.*

48. A discussion of this rule is presented in Annotation, *Medical Malpractice: Necessity and Sufficiency of Showing of Medical Witness' Familiarity with Particular Medical or Surgical Technique Involved in Suit*, 46 A.L.R.3d 275 (1972).

49. *Pearce v. Linde*, 113 Cal. App. 2d 627, 248 P.2d 506 (1952).

50. *See Miller v. Silver*, 181 Cal. App. 3d 652, 226 Cal. Rptr. 479 (1986).

procedure.<sup>51</sup>

In most jurisdictions the expert witness must be familiar with the disputed technique but need not have direct experience in performing the procedure. *Carbone v. Warburton*<sup>52</sup> summarizes the rule followed by the courts in a number of jurisdictions when examining the qualifications of expert witnesses:

The inquiry is directed to the witness' knowledge and experience in the care and treatment of the illness or injury in suit to enable the trial judge to determine whether the witness has sufficient acquaintance with the standards recognized and applied by the medical profession in the situation under investigation to justify his expression of an opinion. Such acquaintance does not necessarily depend upon personal experience with like situations. It may equally be established from evidence of the witness' observations of the things done by fellow practitioners or of the witness' reading and study of treatises and medical journals upon the subject.<sup>53</sup>

In most jurisdictions, whether the practitioner has ever performed the procedure in question goes to determining the weight that the jury assigns to the expert's testimony. However, if samples of physicians are to be used to establish empirical standards of care, it is necessary that the respondents have had either direct experience or indirect experience with the procedures in dispute. After examining the case law in a specific jurisdiction, the researcher should devise a set of questions to be answered in written or oral form which inquire as to whether the respondent is familiar with the medical problem that is at the heart of the dispute. Physicians who are not familiar enough with the procedures to be able to provide a knowledgeable response should be eliminated from the sample. Descriptive statistics should be provided to demonstrate that the respondents possessed an acceptable understanding of the procedures involved in the case at bar. Absent this data, the court may very well decide that the research evidence is not admissible.

In summary, I have argued that medical standards of care need empirical and explicit definitions. However, a psycholegal analysis of the law demonstrates that for such standards of care to be meaningful to the courts as well as to psychological researchers, the samples of physicians must be not only externally valid (generalizable to a meaningful population) in a psychological sense, they must also be legally valid. That is, the sample of respondents must be selected from a population that meets the locality, specialty, and knowledge rules of the jurisdiction in which the case has been filed. While I have shown that samples may be drawn to satisfy legal requirements, my arguments have not yet considered why modifications would be beneficial. That is, if the medical malpractice system is not broken, why should it be

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51. *Swan v. Lamb*, 584 P.2d 814 (Utah 1987).

52. 11 N.J. 418, 94 A.2d 680 (1953).

53. *Id.* at 425, 94 A.2d at 683.



fixed? I turn now to some issues of public policy which favor an empirical approach to malpractice law.

### III. MEDICAL MALPRACTICE CRISES AND THE NEED FOR REFORM

Professional negligence law was put to a severe test during the mid-1970's. The number and size of medical malpractice suits grew at a rate alarming enough to cause a number of insurers to leave the market.<sup>54</sup> For example, the St. Paul Fire & Marine Insurance Company, a leading provider of medical malpractice insurance, reported an increase in claim rates from about 1 for every 23 physicians in 1969 to 1 for every 10 in 1974 and a doubling of average claim payments from 1969 to 1975.<sup>55</sup> It is argued that as a result a number of doctors found it difficult to obtain insurance even at very high premiums. Because of the scarcity of insurance, the situation in the mid-1970's was referred to as the "crisis of availability."<sup>56</sup>

One commentator<sup>57</sup> discussed and rejected the decline in standards

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54. Saks, *Legal Policy Analysis and Evaluation*, 44 AMERICAN PSYCHOLOGIST 1110, 1112 (1989). In viewing the evidence for a general tort liability crisis, Saks draws into question the conclusion that there has been an uncommon and rapid increase in tort litigation. Saks criticizes the logic that points to a crisis in tort litigation because the crisis claims are based on anecdotes, unadjusted aggregate data, and cause and effect inferences that have not been adequately tested. See also Galanter, *The Day After the Litigation Explosion*, 46 MD. L. REV. 3 (1986); Saks, *In Search of the "Lawsuit Crisis"*, 14 LAW, MED., & HEALTH CARE 77 (1986); and Saks, *If there be a crisis, how shall we know it?*, 46 MD. L. REV. 63 (1986). Although studies have shown an increase in the number of tort filings, trials, and winning cases by the plaintiffs, such data in the absence of adequate comparison conditions do not lead conclusively to the conclusion that a crisis is occurring. See *infra* notes 73-78 and the accompanying text for a discussion of some data documenting increases in medical malpractice claims and recoveries. Logic demands that a conclusion supporting an extensive general tort crisis must be based on data that have controlled for all plausible rival hypotheses. One of the most salient rival hypothesis is that the observed increase in claims and winnings simply reflects the possibility that the base rate of injuries has been increasing. Translating to the specific crisis in medical malpractice, it is possible that observed increases in insurance claims, number of filed claims, and recoveries are true positives. See *infra* for a discussion of the distinction between true positives — the plaintiff's decision to pursue a law suit after being harmed by a physician's negligence, and false positives — the plaintiff's decision to file a claim when the cause of harm is simply the failure of medical knowledge and technology (or the result of a chance event). In other words, the increased claims and recoveries might have resulted from actual increases in iatrogenic injury that were caused by negligence. Clearly more research is needed to clarify the extent to which the observed increases in medical malpractice claims represent increases in false positives.

55. Qual, *supra* note 33, at 420.

56. *Id.* at 421.

57. Robinson, *The Medical Malpractice Crisis of the 1970s: A Retrospective*, 49 LAW & CONTEMP. PROBS. 5 (1986).

of medical practice as a possible cause of the dramatic rise in malpractice suits. More probable causes include an increase in risk of iatrogenic injury as a function of advances in highly technical but somewhat dangerous medical methods, an increase in the public's expectations of medical outcomes resulting in greater levels of dissatisfaction and higher probabilities of bringing suit for injuries, and an increase in both the number and aggressiveness of lawyers, especially in light of the contingent fee structure that drives the tort system.<sup>58</sup> While each of these factors is an arguable cause, most writers focused on the liberalization of tort doctrine during the late 1960's. Critics maintained that changes in medical malpractice law encouraged more frequent and sizable claims, and increased the probability of recovery.

Notable alterations included a relaxing of the locality rule, allowing plaintiffs to proffer expert witnesses from communities similar to those of the defendant or in states adopting a national standard (especially for specialists) from communities far apart in geographic and social distance.<sup>59</sup> As a result expert witnesses were more readily identified and it became easier to establish *prima facie* cases of negligence. Other changes in procedural and substantive tort law included lengthening the statute of limitations by adopting a discovery rule,<sup>60</sup> loosening proof requirements by widening the type of cases in which the common knowledge of the jury was sufficient to define the standard of care, and making increasingly available the principle of *res ipsa loquitor*.<sup>61</sup>

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58. *Id.* at 11-18.

59. Qual, *supra* note 33.

60. A tort case must be brought within a specified of time period or recovery is barred by the statute of limitations. While different jurisdictions follow statutes of limitations of various lengths, the cause of action accrues in traditional common law when the harm occurs. Once the claim is filed, the statute stops running. It is traditional in medical malpractice law that the statute commences running at the time of the injury even if the plaintiff is unaware of the harm suffered. Because the traditional rule is a harsh one for the plaintiff, a number of states in the 1960's and 1970's adopted a discovery rule which held that the statute begins to run only when the plaintiff discovers or should have discovered the injury. The language of the Oregon Supreme Court in *Schiele v. Hobart Corp.*, 284 Or. 483, 490, 587 P.2d 1010, 1014 (1978), is instructive: "The statute of limitations begins to run when a reasonably prudent person associates his symptoms with a serious or permanent condition and at the same time perceives the role which the defendant has played in inducing that condition." Adopting a discovery rule makes it easier for plaintiffs who suffer injuries that remain latent for long periods of time to bring suit. For plaintiffs filing in states with a discovery rule, the statute does not begin to run until the plaintiffs discover or should have discovered their symptoms and connect the symptoms to the physician's negligence. Claims that are not filed until the symptoms are discovered, even if it is years after the injury occurred, are not barred by elapsed statutes of limitations. Thus the discovery rules may have precipitated the medical malpractice crisis by having made it easier for victims to file claims.

61. The RESTATEMENT (SECOND) OF TORTS § 328D (1965) defines *res ipsa loquitor* as:

As a result of the crisis of availability, almost all states enacted some form of legislation to curb the increases in medical malpractice claims. One general strategy was to limit the plaintiffs' access to the courts.<sup>62</sup> For example, some states passed legislation that modified the discovery rule by incorporating absolute time limits beyond which claims could not be brought. Other states enacted legislation allowing health care providers and patients to enter into voluntary arbitration to try and resolve any disputes arising from health care transactions. In a related vein, pretrial screening panels have been established to screen out claims without legal merit. The decisions of the panels are not binding; therefore, the decisions do not necessarily preclude a law suit if the plaintiffs' cases are found to be without merit. In some states the panels' decisions are admissible in court and in others they are not. There is a great deal of controversy concerning the efficacy of arbitration and screening panels. Although attorneys tend to disfavor these approaches, believing that they result in double litigation, formal studies of screening panels concluded that in several states they reduced the number of malpractice claims reaching the courts.<sup>63</sup> While studies of the effectiveness of arbitration agreements are not conclusive, one author<sup>64</sup> reviewed existing data and concluded that arbitration provisions are effective in reducing the number of claims filed and the costs of dispute resolution.

A second approach of reform legislation attempted to alter the

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It may be inferred that harm suffered by the plaintiff is caused by negligence of the defendant when (a) the event is of a kind which ordinarily does not occur in the absence of negligence; (b) other responsible causes, including the conduct of the plaintiff and third persons, are sufficiently eliminated by the evidence; and (c) the indicated negligence is within the scope of the defendant's duty to the plaintiff.

*Res ipsa loquitor* instructions are given to a jury in medical malpractice cases if it is judged that an iatrogenic injury could not have occurred unless the defendant-physician acted negligently, the defendant was in control of the instrument that caused the harm at the time of the injury, and all other plausible causes (including action by the plaintiff) can be eliminated. *Res ipsa* instructions allow a jury to decide in favor of a plaintiff simply by concluding that negligence was more likely than not, i.e., "the thing speaks for itself." For example, juries usually receive *res ipsa loquitor* instructions in cases alleging negligence during surgery if some harm is done to a part of the body that was not involved in the surgery. If a surgeon "accidentally" amputates the wrong leg, "the thing speaks for itself." Making *res ipsa loquitor* more available is likely to result in greater probability of recovery for plaintiffs.

62. Qual, *supra* note 33, at 428-31.

63. CARLIN, MEDICAL MALPRACTICE PRE-TRIAL SCREENING PANELS: A REVIEW OF THE EVIDENCE (1980); Daughtrey & Smith, *Medical Malpractice 'Review Panels' in Operation in Virginia*, 19 U. RICH. L. REV. 273 (1985).

64. Schor, *Health Care Providers and Alternative Dispute Resolution: Needed Medicine to Combat Medical Malpractice Claims*, 4 OHIO ST. J. ON DISPUTE RESOLUTION 65 (1988).

costs and rewards for litigation.<sup>65</sup> For example, some states tried to limit frivolous cases by enacting legislation requiring the unsuccessful party to pay attorney and expert witness fees. Other states passed statutes that either set limits on the upper boundaries of attorney fees or authorized the courts to do so. Because the collateral source rule<sup>66</sup> was criticized for contributing to increased damage awards and thereby increasing motivation to bring suit, some states enacted legislation that allows the trier of fact to adjust awards according to the availability to patients of alternative sources of compensation. Other attempts at reducing the incentives for bringing suit included statutes that placed monetary caps on the size of awards, created patient compensation funds to pay plaintiffs' settlements in excess of established caps, and permitted defendants to reimburse plaintiffs in installments instead of lump sum payments.

Some states enacted creative insurance legislation to combat the availability crisis.<sup>67</sup> A majority of state legislatures allowed for the establishment of non-profit joint underwriting associations (JUA) in which money controlled by commercial liability insurers is pooled within a state to form a self-sustaining fund that guarantees the availability of insurance at premium rates.<sup>68</sup> If losses to the collective fund occur, they are assessed against the member companies. A few states have passed statutes authorizing the creation of insurance companies owned and operated by physicians who presumably are inclined to hold down premiums.

Finally, there are a series of reforms that were enacted to directly alter the evidential and procedural aspects of tort doctrine. States acted to limit the availability of *res ipsa loquitor*. Some states raised the standard of proof in medical malpractice cases to exceed that which is normally required for *res ipsa* instructions. Other states enacted legislation restricting which physicians may serve as expert witnesses, thereby limiting the plaintiff's ability to give testimony about the customary standard of care. Qualification limitations include requiring the expert to have practiced in the defendant's specialty for a specified percentage of years of the expert's professional life or to have practiced within the last calendar year. Other states codified some version of the locality rule limiting the availability of expert testimony. Another reaction aimed at reducing the number of causes of action were statutes that tightened the law of informed consent to limit or discour-

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65. Qual, *supra* note 33.

66. "The collateral source rule prevents the value of any benefits received by the injured party from sources other than the tortfeasor to offset the damage recovery." *Id.* at 433.

67. *Id.*

68. *Id.* See also Sloan, *State Responses to the Malpractice Insurance 'Crisis' of the 1970s: An Empirical Assessment*, 9 J. HEALTH, POL., POL'T & L. 629 (1985).

age lack of patient consent claims.<sup>69</sup> Finally, some states eliminated the *ad damnum* clause as part of the plaintiff's complaint. The clause lists the amount of recovery that the victim seeks. State legislatures concluded that listing in public documents the amount of recoveries sought increased the incentives for potential plaintiffs.

It has been argued that the crisis of availability of the 1970's faded away only to be replaced by the crisis affordability of the 1980's.<sup>70</sup> Although increased malpractice insurance premiums have not driven insurers out of the 1980s' markets, they have made medical malpractice insurance unaffordable for many doctors. Many of the tort reforms were held to be unconstitutional and it is doubtful that others had the intended effect.

Even if the tort reforms of the 1970's had the intended effect of limiting the frequency and size of malpractice suits and ultimately reducing the growth of insurance premiums, they were inconsistent with the four functions of tort law described at the beginning of this manuscript. Limiting injured patients' access to the courts, creating disincentives to litigation by redistributing costs and benefits of adjudication, and enacting legislation that turns the procedural and substantive law in favor of the defendant reduce the effectiveness of tort in meeting the plaintiff's needs for retribution, compensation, and re-

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69. The patient has the right to decide whether or not to undergo a medical procedure. "[E]very competent adult [has a] right to forego treatment, or even cure, if it entails what for him are intolerable consequences or risks however unwise his sense of value may be in the eyes of the medical profession." *Wilkinson v. Vesey*, 110 R.I. 606, 624, 295 A.2d 676, 687 (1972). Most jurisdictions evaluate the physician's responsibility according to a customary standard of care. See *King*, *supra* note 11. If the doctor fails to inform the patient of some risk of injury that is customarily revealed in the community of practicing physicians in similar circumstances and that injury results from the treatment, then the physician is negligent and liable for the resulting harm. Most jurisdictions further require an objective test such that a reasonable person would not have consented to the treatment had that person been made aware of the risk of harm.

A minority of jurisdictions follow the materiality rule in deciding whether or not withholding information about risk of harm may be negligent:

[A] physician owes to his patient the duty to disclose in a reasonable manner all significant medical information that the physician possesses or reasonably should possess that is material to an intelligent decision by the patient whether to undergo a proposed procedure. The information a physician reasonably should possess is that information possessed by the average qualified physician. . . . What the physician should know involves professional expertise and can ordinarily be proved only through the testimony of experts. . . . However, the extent to which he must share that information with his patient depends upon what information he should reasonably recognize is material to the plaintiff's decision. . . . The materiality determination is one that lay persons are qualified to make without the aid of an expert. . . .

*Harnish v. Children's Hosp. Medical Center*, 387 Mass. 152, 155-56, 439 N.E.2d 240, 243 (1982).

70. Qual, *supra* note 33.

ducing the prevalence of substandard care. In dealing with the crisis of affordability, plaintiffs may fair better if the courts and legislatures acknowledge the role of tort law as educator, and consider modifications in procedure and substance which are designed to provide norms that will motivate physicians to adhere to a set of professional values without reducing further the availability of retributive or compensatory efficacy. From a psycholegal perspective the real need for reform in the malpractice system is not to restrict plaintiffs from bringing suit for valid causes of action, but is instead to clarify the law so that patients and physicians alike become more aware of what is required of each and under what circumstances it is appropriate to bring suit. If the standards of care are more explicit, physicians will be less likely to breach them and patients will be less tempted to argue that simple errors constitute malpractice. The end result ought to be a reduction in the number of negligently caused iatrogenic injuries and the number of unreasonable claims.

The next section provides an analysis of the impact of the reform movement of the 1970's. It begins with a review of the empirical research that brings into question the extent to which the reforms fully achieved all intended effects. Next, the discussion turns to economic theory to try and explain some of the reasons why the reforms may have been less than completely successful. Finally, I discuss the need for a psycholegal approach to the medical malpractice problem. The goal of this approach is to establish medical standards of care to which doctors adhere not because they are fearful to do otherwise, but because the standards describe a true consensus to which physicians will owe a professional allegiance.

#### IV. AN ANALYSIS OF THE IMPACT OF MEDICAL MALPRACTICE REFORMS

##### A. Empirical Analysis

Two recent and often cited empirical studies used data collected during the medical malpractice crisis (mid 1970's) to try and isolate predictors of insurance premiums claim frequency,<sup>71</sup> and claim severity.<sup>72</sup> The first treated average premium levels and changes in average premium levels as dependent variables in regression analyses in which data was entered from all fifty states for the years 1974, 1975, 1976, 1977, and 1978.<sup>73</sup> Each state, measured at a given year was a single observation point.

A number of variables were entered to explain or control for existing premium levels as were a number of predictors to measure the

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71. Sloan, *supra* note 68.

72. DANZON, *supra* note 5.

73. Sloan, *supra* note 68.

influence of tort modifications of the 1970's, including alternatives to trial and changes in tort doctrine and insurance provisions. The study confirmed the trend showing that the premium changes increased over the years. However, only one significant relationship with premium amount using the control variables was found. Premiums were higher for general practitioners, ophthalmologists, and orthopedic surgeons in states with higher surgery rates. Especially interesting was the lack of any relationship between the number of lawyers and premium rates. The study failed to find any support for the theory that the medical malpractice crises were precipitated in part by an increase in the number of practicing attorneys.

With regard to the predictor variables designed to distinguish among states that enacted various tort reforms, few significant relationships were found at the conventional .05 level of significance. The only tort reform that was consistently related to decreases in premium rates was mandating pretrial screening panels to which cases have to be submitted before going to trial. States with mandatory screening panels had significantly lower insurance premiums as compared to states without such panels. Perhaps of equal interest was the absence of other associations, which indicates that the various tort reforms of the 1970's had little significant impact on decreasing insurance premiums.<sup>74</sup>

A somewhat similar study<sup>75</sup> also treated states as observation points but included data from 1975 to 1984 and employed as dependent variables claim frequency and average severity of paid claims per 100 doctors in each state.<sup>76</sup> Like the earlier research, this study used a form of regression analysis to examine the relationship between the dependent variables and some control or explanatory predictors and some variables coded to measure whether a state had adopted a particular tort reform. Significant increases were found over time for claim frequency and claim severity per physician. The medical malpractice crisis appears to have continued in some form at least well into the mid 1980's.

Some of the more consistent relationships between the tort re-

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74. The other tort reforms examined in Sloan's analysis were:

1) limiting provider payments to plaintiffs, 2) limiting use of *res ipsa loquitor* doctrine, 3) tightening the statute of limitations, 4) clarifying informed consent, 5) imposing contingent-fee regulation, 6) adding collateral-source provisions, 7) eliminating the *ad damnum* clause, 8) imposing a locality rule, 9) allowing for binding arbitration, 10) creating joint underwriting associations, and 11) allowing formation of health care mutual insurance companies.

*Id.* at 633-637. Sloan found no evidence that any of these reforms had any impact on insurance premiums.

75. DANZON, *supra* note 5.

76. Although Danzon used some additional dependent measures they are not discussed because they are less central to the purposes of this article.

forms and claim frequency involved statutes of limitations and collateral benefits. Shorter statutes of limitations and collateral source offset were significantly related to reductions in the frequency of total and paid claims. Pretrial screening had no relationship with either measure of claim frequency and binding arbitration boards seemed to be related to increases in claim frequency, especially small claim frequency, suggesting arbitration may provide an opportunity for small claim plaintiffs to have their grievances heard. With regard to claim severity, some of the tort reforms also appear to be related to lower compensatory damages. In particular, caps on awards, collateral source offset, and voluntary binding arbitration are related to lower paid claims.

Viewed together the results of these two studies suggest some interesting possibilities. First, both studies suggest that increases in insurance premiums, malpractice claim frequency, and malpractice claim severity show no sign of abating. Second, the first study found that reform of tort doctrine had very little relationship with the size of insurance premiums. Nonetheless, the second study indicates that some of the reforms were related to reductions in the frequency and severity of malpractice claims. Together these results would suggest that although the tort reforms of the 1970's were related to decreases in frequency and size of claims, the reductions were not translated into similar cut backs in the costs of insurance to physicians. Thus, even though some of the tort reforms may have acted to decrease rewards for iatrogenic injuries, there is little evidence that the reductions in rewards were realized by either physicians or patients with regard to the costs of insurance and ultimately medical care.

The fact that the tort reforms were associated with lower claim frequency and severity but not with lower premiums suggests that premiums are somewhat insensitive to changes in claim frequency and severity. Given that recent data estimates that median premiums represent less than three-percent of gross practice income for physicians<sup>77</sup> and the apparently weak relationship between tort reforms and average insurance premiums, it is unlikely that physician negligence is determined solely by expected malpractice costs. The link between insurance premiums and physician behavior may not be strong enough to invoke the full force of market economics to regulate medical malpractice. For a fuller explanation of the weak link between expected malpractice costs and negligence it is necessary to examine some of the theoretical positions made by the law and economics movement.

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77. Kirchner, *Is Your Practice Begging for Money*, MED. ECON. 214 (Nov. 12, 1984).



## B. Economic Analysis

Perhaps, the most central concept in the positive economic theory of tort law is the Pareto superiority sense of efficiency:

[A] policy change is said to be efficient if the winners from the change could compensate the losers, that is, if the winners gain more from the change than the losers lose, whether or not there is actual compensation. . . . A change is wealth maximizing if the dollar value of the gains to the winners is greater than the dollar cost of the losses to the losers. The positive economic theory of tort law holds that tort rules are efficient in the sense of wealth maximizing.<sup>78</sup>

Landes and Posner argue that judicial decisions and rules of tort law are efficient if they maximize wealth, and that the unstated goal of tort litigation is efficiency. Thus, if the expected disutility of injury is a greater cost to the plaintiff than is the expected utility of the costs of adequate precautions for the defendant, then the efficient decision goes to the plaintiff.

According to the Coase theorem,<sup>79</sup> if transaction and bargaining costs are low, the parties in a tort situation will bargain to an economically efficient solution regardless of the how the law assigns rights. For example, if the law favored physicians in cases of malpractice, patients would offer — bribe — their doctors with enough financial compensation to avoid the acts of harm up to the amount that the victims expected to lose from the occurrence of the harmful act. Patients would offer bribes of sufficient value to lower the expected disutility to an acceptable level. On the other hand, if the law favored patients, the doctors would take precautions to avoid the harm until the cost of the precautions exceeded the expected costs of injury to the patient. At the point at which cost of the precautions exceeded the potential loss to the patient, and through recovery loss to the physician, it would no longer be rational for the physician to assume the precautionary costs. In either scenario the resulting interaction would maximize wealth in the sense that the parties would negotiate the level of risk that was acceptable to themselves.

If transaction costs were low, the tort system would be effective in primary cost reduction (*i.e.*, reducing the number and severity of accidents) even if third parties were held liable for injuries as long as full compensation was required.<sup>80</sup> Consider the situation of insurance firms in medical malpractice suits. If the insurers are required to pay the costs of the injuries caused by the physicians, they would act as agents of the patients to bribe the physicians to alter their risky conduct by increasing rates for violations of the standard of care and reducing rates for adherence to the standard. They would do so up to

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78. LANDES & POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* (1987).

79. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960).

80. CALABRESI, *THE COST OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970).

the point where the bribes exceeded the expected costs of injury that the insurance companies were required to pay the injured. The involvement of third parties points out clearly that the goal of efficient tort action is not necessarily to deter harmful conduct but instead to balance or optimize unnecessary precautions against harmful professional conduct.<sup>81</sup>

Assuming that the logic derived from the Coase theorem is correct the outcome it predicts has two serious problems. First, the Coase theorem may work well in the closed system for which it was developed, but it has serious limitations when applied in the open systems of the real world.<sup>82</sup> The theory does not take into account the fact that the results of bargaining with or without judicial intervention favor those who enter the negotiations with superior financial and informational resources. Instead it assumes that all actors enter the system with an equal ability to bargain. For example, if the law, for purposes of efficiency, holds in favor of a physician practicing in obstetrics and gynecology who fails to order a medical test because the cost of ordering the test far exceeds the expected cost of stillbirth (presumably because the probability of stillbirth without the procedure is very low), it is unlikely that future plaintiffs will be able to band together and pay the transaction costs that would be necessary to modify the behavior of physicians to perform the extra procedures. Patients have neither the resources nor the information (*e.g.*, explicit knowledge of standards of care) required to make the necessary bribes available to physicians. In a sense, the inability of patients to modify the behavior of physicians fails to promote efficiency because the expected loss may exceed the resources that patients have available to meet the level of bribes necessary to purchase the needed precautions.

A second serious problem that is more germane to the issues discussed in this manuscript is the nature of the feedback loop between insurance companies and physicians. In order to bargain effectively either within or outside the judicial system, patients, physicians, and attorneys need to have a clear expectation about the medical standard of care. Without being able to refer explicitly to the requirements of standard medical treatment patients are unable to determine whether or not an injury is due to an honest failure in medical knowledge and technology, or if it is due to physician negligence. Physicians and insurance companies are equally unprepared to attribute responsibility to the rightful source of the injury. Under such conditions of uncertainty the most effective strategy for the insurance company and physician might be to assume that iatrogenic injuries are negligent and to protect themselves from potential loss. As a result insurance compa-

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81. LANDES & POSNER, *supra* note 78.

82. Donohue, *Law and Economics: The Road Not Taken*, 22 LAW & SOC'Y REV. 903 (1985).

nies are unable to tie premiums directly to the implicit standards of care that underlie negligence law and are unable to bargain effectively with physicians. The only cautious strategy available is to increase insurance premiums to cover the uncertainties that are an inherent part of the implicit standards of care. Thus, even if tort reform has brought about a reduction in the frequency and severity of causes of action, the unpredictable nature of medical standards of care make it difficult for insurance companies to translate these outcomes into appropriate changes in insurance premiums. It would seem that patients and physicians need to have clear expectations about the medical standard of care, if they are to bargain effectively through the courts or outside the courts. Thus a marketplace analysis of medical malpractice law relies on patients' and doctors' knowledge of the standard of care. It would appear that making that standard explicit in areas that witness a large number of suits would sharpen the market mechanisms that are at work and would allow society to hold patients, physicians, and insurance companies accountable for their roles in the medical malpractice crisis.

### C. Psycholegal Analysis

The law and social science movement and in particular the law and psychology perspective holds that the law acts to modify behavior by announcing the social norms of society.<sup>83</sup> The social norms of society are no less controlling of professional conduct than they are of the behavior of any other category of people. The law acts to educate the members of a social group and of society as a whole about the underlying value system that gives rise to expectations of social behavior. The minds of people are not blank computation machines, but instead contain encoded representations of all the experience that has come before in the lives of individuals. It is well established that the specific content of individuals' memory structures guide their behavior. The cognitive structures of individuals have been studied extensively by psychologists.<sup>84</sup>

There are a number of areas in which scientists have found that social judgments and decision making are determined by the way in which people represent in their memories information collected in the outside world. Some recent research demonstrates that conduct is an expression of internalized cognitive structures in juror verdicts,<sup>85</sup> judi-

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83. Melton & Saks, *supra* note 8.

84. See FISKE & TAYLOR, *SOCIAL COGNITION* (1984).

85. Casper, Kennette, & Kelly, *Cognitions, Attitudes and Decision-Making in Search and Seizure Cases*, 18 J. APPLIED SOC. PSYCHOLOGY 93 (1988); Pennington & Hastie, *Evidence Evaluation in Complex Decision Making*, 51 J. PERSONALITY & SOC. PSYCHOLOGY 242 (1986); Wiener, Wiener, & Grisso, *Empathy and Biased Assimi-*

cial decisions,<sup>86</sup> political behavior,<sup>87</sup> and general impression formation.<sup>88</sup> Although there is some disagreement about the manner in which information is stored, manipulated, and retrieved, there is widespread agreement that the simple content of cognitive structures have a profound impact on conduct. There is also widespread agreement that the human mind is not a purely rational processor of information. People search for short cuts or heuristics in making judgments and decisions.<sup>89</sup> It is these considerations that have lead social psychologists to view people more as "cognitive misers" than as "intuitive scientists."<sup>90</sup>

Psycholegal jurisprudence suggests that law, including medical malpractice law, has its greatest impact as an educator. It is the symbolic content of law and its representation in the minds of people that most influences behavior. Social science and law scholars, in part, view the "law as an institution that reifies our sense of community. . . ."<sup>91</sup> Law provides a system of behavioral cues directing conduct in ways that are acceptable to society at large as well as to specific subgroups:

[T]he nature of law, apart from its underlying ideology, is such that a primary function is to provide cues for behavior the society approves of, or at least to provide inhibiting cues to suppress the behavior the society disapproves of. . . . A legal decision not only resolves a particular dispute, it also offers information about state approved behavior.<sup>92</sup>

Medical malpractice law should strive to inform both physicians and patients about the standard of care that it prescribes for health providers. It should reflect the standards of the profession in a way that allows patients, physicians, and jurors to measure those standards against the general values of the community. Making the standard of care explicit and defending it as a legitimate set of prescriptions may

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*lation of Testimonies in Cases of Alleged Rape*, 13 LAW & HUM. BEHAV. 343 (1989).

86. Higgins & Stangor, *A 'Change-of-Standard' Perspective on the Relations Among Context, Judgment, and Memory*, 54 J. PERSONALITY & SOC. PSYCHOLOGY 181 (1988); Pennington & Hastie, *Explanation-Based Decision Making: Effects of Memory Structure on Judgment*, 14 J. EXPERIMENTAL PSYCHOLOGY: LEARNING, MEMORY, AND COGNITION 521 (1988).
87. Fazio & Williams, *Attitude Accessibility as a Moderator of the Attitude-Perception and Attitude-Behavior Relations: An Investigation of the 1984 Presidential Election*, 51 J. PERSONALITY & SOC. PSYCHOLOGY 505 (1986).
88. See generally Brewer, *A Dual Process Model of Impression Formation*, 1 ADVANCES IN SOC. COGNITION 1 (1988).
89. See generally KAHNEMAN, SLOVIC, & TVERSKY, *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES* (1982); Sherman & Corty, *Cognitive Heuristics*, in 1 HANDBOOK OF SOCIAL COGNITION 189 (1984).
90. FISKE & TAYLOR, *supra* note 84.
91. Melton, *Law, Science, and Humanity: Reflections on the Defeat of Judge Bork*, LAW & HUM. BEHAV. (in press).
92. Melton & Saks, *supra* note 8, at 257.

be as effective in the general deterrence of substandard treatment as relying on the motivating forces of expected utility.

Viewing iatrogenic injury and resulting medical malpractice claims in the language of the literature of psychology and decision making, one might first draw a distinction between injury that is due to negligence and injury that is the result of a failure of medical knowledge and technology (or a chance event). A second distinction should be made between iatrogenic injury that results in a cause of action and injury that does not lead to use of the legal system to make a claim of negligence. The first distinction holds information about the etiology of the injury and the second about the decision whether or not to make use of the legal system. If we are focusing on the occurrence of negligent harm, then the plaintiff's decision to pursue a law suit after being harmed by the actual negligence of a physician would be labelled a true positive and the decision not to pursue a suit under conditions of non-negligent iatrogenic harm is a true negative. The positive versus negative distinction is reserved for the decision dimension (*i.e.*, whether or not to bring a negligence claim) and the true versus false distinction is used for the corresponding veridicality between the patient's decision and the etiological dimension. Thus, a decision to file a claim when the cause of harm is simply the failure of medical knowledge and technology (or the result of a chance event) is a false positive (a type I error), and the decision to not file a claim under conditions where there is medical negligence is a false negative (a type II error).

Tort law should act to maximize both true positives and true negatives. In other words it should encourage decisions to use the legal system under conditions where there is actual negligence and decisions to avoid its use under conditions of no actual negligence. At the same time tort law should discourage false positives and false negatives, making claims under conditions of no negligence and failing to use the medical malpractice system under conditions of actual negligence. Further, the tort system should act to decrease the incidence of actual medical negligence regardless of whether or not suits are filed. The medical malpractice reforms of the 1970's failed to discriminate between false positives and true positives. The reforms were attempts to reduce medical malpractice claims without systematic concern for the etiological dimension of iatrogenic injury. The reforms, if anything, encouraged false negatives — the failure to use the medical malpractice system for actual negligent injuries.

The objectives of psycholegal jurisprudence with respect to medical malpractice law are the normative goals of tort law discussed above. The attainment of the objectives can most directly be realized by making explicit medical standards of care so that physicians, patients, lawyers, jurors, and judges are able to draw meaningful distinctions between the etiological antecedents. One can not reliably

determine whether behavior is negligent unless the standards by which the behavior is to be judged are made explicit.

## V. AN EMPIRICAL DEFINITION OF MEDICAL STANDARDS OF CARE

### A. Customary Versus Accepted Medical Standards of Care

Two central assumptions that were incorporated into the early medical standard of care were: 1) the law adopted custom as a measure of the duty owed to a patient by a physician even though in other areas of negligence the law applied the reasonably prudent person standard; and 2) custom exists with regard to all medical procedures without which there would be no method available for questioning the conduct of a physician.<sup>93</sup> Any method that purports to measure the standard of care must be based on some definition of the normative practices of professionals.

However, there are some good reasons to consider replacing the customary standard with a version of the reasonably prudent person standard.<sup>94</sup> The customary standard is rooted in habit. The controlling duty is defined strictly in terms of those procedures that have been performed with sufficient regularity so as to become the foundation of current practices. It is not a certainty that medical custom is sensitive enough to technological changes nor insensitive enough to market pressures to produce optimal health care.

A well known example of the distinction between the reasonably prudent person standard and the customary standard, which also illustrates the insensitivity of the customary standard to technological advancement, comes from a case decided by the renowned Judge Learned Hand. In *The T.J. Hooper*,<sup>95</sup> Judge Hand ruled that the Northern Barge Company, owner of the tugs, Montrose and Hooper, was liable for damages due to the loss of two barges being pulled by the tugs in a storm off the New Jersey coast. If proper radio equipment had been available the tugs would have been warned of the imminent storm and would have been able to reach safe harbor. Judge Hand ruled against the owners of the tugs even though it was customary in 1932 for tugs not to carry radio receivers arguing that custom is not probative in cases of ordinary negligence and that given the state of the art in radio transmissions a reasonably prudent tug boat owner would have provided adequate radio equipment. Thus, Judge Hand distinguished between customary and accepted standards as they apply to ordinary duty and ruled that evidence of customary practices was not dispositive in establishing ordinary care.

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93. Keeton, *supra* note 9.

94. King, *supra* note 11.

95. 60 F.2d 737 (2d Cir. 1932).

It has been suggested that the customary standard should be replaced with the accepted practice standard in medical malpractice law.<sup>96</sup> Such a standard based on the "practices approved by the profession, not necessarily those customarily followed by its members," has three distinct advantages. First, because the accepted standard is based on the best practices of the day, it would announce that novel techniques not rooted in customary practice are nonetheless subject to malpractice litigation. Thus the professional standard would consider the physicians' reasonable expectations of the need for up to date care. Second, it would not suffice for physicians to conform their conduct to that which was approved by others who were engaged in the same activities. Instead, they would be required to conduct their practices according to the best judgments of the day, based on current medical technology. Third, the accepted practice standard would probably be less burdened by a possible lack of consensus. The standard would be based on the ideal judgment of practitioners in similar situations; therefore, there would be much less room for disagreement than there is about the customary standard, which is more strongly influenced by the individual differences in habits of practicing physicians.

Although there has been some discussion of the logic of the accepted practice standard, there has been little acceptance of the conclusions. One outstanding exception is found in *Helling v. Carey*.<sup>97</sup> The plaintiff, Barbara Helling, regularly consulted with two ophthalmologists for nearsightedness and as a result she was fitted with contact lenses in 1959. Although Helling complained of additional visual problems, the defendants considered them to be related solely to difficulties she was having with her contact lenses. In October of 1968 one of the defendants conducted a test for glaucoma and found that the plaintiff suffered from the disease. As a result of the disease, Helling essentially lost her peripheral vision and experienced a dramatic reduction in her central vision. The defendants produced expert witnesses to testify that the customary standard of care was not to administer the pressure test routinely to patients under age forty because the incidence of glaucoma was extremely low in that age group. Nonetheless, the Washington Supreme Court finding for Helling, supported an accepted standard rule over the customary standard. The court reasoned that because the pressure test was harmless and inexpensive, it was the duty of the ophthalmologist to administer the procedure routinely to all patients. In short, the court fashioned its own accepted practice standard and replaced the customary care standard with its own test.

In *Harris v. Groth*,<sup>98</sup> the Washington Supreme Court interpreted

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96. King, *supra* note 11, at 1236.

97. 83 Wash. 2d 514, 519 P.2d 981 (1974).

98. 99 Wash. 2d 438, 663 P.2d 113 (1983).

the Washington statute as follows:

The standard of care against which a health care provider's conduct is to be measured is that of a reasonably prudent practitioner possessing the degree of skill, care, and learning possessed by other members of the same profession in the state of Washington. The degree of care actually practiced by members of the profession is only some evidence of what is reasonably prudent — it is not dispositive.<sup>99</sup>

Psycholegal jurisprudence favors a standard of care which is reflective of the current practice among physicians. The standard should reflect the norms of the culture of practicing doctors. However, if the standard is to distinguish between injury due to negligence and injury due to failure of medical knowledge and technology, then the standard should not ignore the difference between customary and normative practices. A process that empirically defines medical standards should encourage doctors to exercise that degree of care which is acceptable given the best available technology of the time. It is important not only to construct a standard which makes current practice explicit, but also a rule that motivates physicians to establish patterns of care that incorporate the most current medical advancements. For these reasons the scaling technique advocated below is described for establishing both customary and accepted practice standards. Although the purpose of this manuscript is not to suggest alterations in the doctrine of medical malpractice law, it nonetheless is reasonable to point out that from the perspective of sound decision making the decision maker should be aware of the differences between customary and normative standards. Thus, an objective fact finder in any malpractice case should consider both standards before deciding on liability.

## B. Applied Decision Theory and Medical Standards of Care

The decision aid advocated here borrows heavily from existing psychological approaches to the study of human judgment and decision making. Procedures for improving the quality of human decision making are well documented in research literature on cognitive and social psychology.<sup>100</sup> Techniques for applied decision analysis vary from informal suggestions such as cognitive debiasing,<sup>101</sup> to formal probabilistic reasoning models,<sup>102</sup> and to multivariate policy capturing.<sup>103</sup> The approach advocated here was employed to translate part

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99. *Id.* at 445, 663 P.2d at 120.

100. Hammond, Rohrbaugh, Mumpower, & Adelman, *Social Judgment Theory: Applications in Policy Formation*, in HUMAN JUDGMENT AND DECISION PROCESSES IN APPLIED SETTINGS (1977).

101. Fischhoff, Debiasing, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (1982).

102. Eddy, *Probabilistic Reasoning in Clinical Medicine: Problems and Opportunities*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (1982).

103. Hammond, Rohrbaugh, Mumpower, & Adelman, *supra* note 100.



of the desegregation order of the District Court of Missouri into a decision guideline for evaluating magnet schools.<sup>104</sup>

The issue in medical malpractice suits is to identify the underlying dimension of care in dispute, and to provide a continuum of treatment procedures from which a legally valid sample of physicians may make judgments about the adequacy of treatment for a specific health threatening circumstance. It is clear from existing law that these judgments must represent the customary treatment of the appropriate community of professionals. It is not sufficient for the standard to reflect simply what one or two doctors would recommend in a given circumstance. Instead, the standard of care must document those "services in. . . the practice of a profession" that are required by physicians in order to "exercise the skill and knowledge normally possessed by members of that profession."<sup>105</sup> While the courts have traditionally relied on expert testimony of physicians to establish the standard of care, another approach is to ask a sample of doctors to evaluate hypothetical cases closely modelled after the case at bar.

This approach would establish rational utility functions describing the probability that the physicians would prescribe each of the alternative treatments which vary along the health care dimension under dispute. The proposal combines aspects of two prescriptive models, Multiattribute Utility Theory (MAUT)<sup>106</sup> and Simple Multiattribute Rating Technique (SMART).<sup>107</sup> The methodology is tailored to explicitly map out the implicit rules that physicians would follow as they decide upon the appropriate treatment plans for specific medical problems. The end product of this measurement process is a descriptive account of the standard of care for a specific medical circumstance as practiced by a community of doctors.

The model includes five steps: 1) identify the legally relevant group of professionals; 2) identify from the case at bar the attribute(s) of health care in dispute; 3) solicit from some subset of physicians alternative plans of treatment that vary along the dimension of care; 4) determine from each physician in the sample a separate utility function that describes the likelihood that he or she (or a reasonably prudent physician) would prescribe each of the treatment plans in a situation similar to the case at bar; and 5) aggregate the individual utility functions to establish customary and accepted practice norms for

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104. Wiener, Frank, & Libros, *Termination Guidelines for a Magnet School Review Committee: Application of Decision Theory*, 19 PROF. PSYCHOLOGY: RES. & PRAC. 316 (1988).

105. RESTATEMENT (SECOND) TORTS § 229(A)(1965).

106. EDWARDS & NEWMAN, *MULTIVARIATE EVALUATION* (1982); KEENEY & RAIFFA, *DECISIONS WITH MULTIPLE OBJECTIVES: PREFERENCES AND VALUE TRADEOFFS* (1976); PITZ & MCKILLIP, *DECISION ANALYSIS FOR PROGRAM EVALUATORS* (1984).

107. Gardiner & Edwards, in *Public Values: Multi-Attribute-Utility Measurement for Social Decision Making*, in HUMAN JUDGMENT AND DECISION PROCESSES (1975).

the situation in dispute. After describing a recent malpractice suit, *Soileau v. HCA Health Service, Inc.*,<sup>108</sup> I will describe how the scaling technique could be applied to the dispute in that case.

In *Soileau* the plaintiff, a chronic alcoholic and abuser of antipsychotic and antidepressant medications, had been diagnosed schizophrenic long before he voluntarily committed himself into a treatment program at Cypress Hospital. The treatment program, modeled after the Hazelton/Johnston Program, consisted of three phases of treatment, 1) detoxification, 2) education, and 3) recovery and follow-up. At the time he was admitted, a nurse who took a medical history of the plaintiff described him as calm and alert. The physician in charge of the case, Dr. Bernard, was a general family practitioner who testified that he was unaware of the fact that the plaintiff was schizophrenic. Bernard claimed that although the plaintiff admitted taking several prescribed drugs to control psychotic behavior, the plaintiff showed no signs of schizophrenia nor did he admit to the disease. During the initial stage of treatment Bernard discontinued all of the plaintiff's medications and prescribed Serax to ease the detoxification. Subsequently, the plaintiff suffered a psychotic break, becoming paranoid with delusions that he was God. The plaintiff was treated with medication and brought to a psychiatric ward where he stayed for seventeen days. The plaintiff sued Bernard and the Cypress Hospital for gross neglect.

The plaintiff proffered two psychiatrists who testified that they would not have abruptly removed the plaintiff from his antipsychotic medicine. Both experts questioned the soundness of Bernard's judgment in discontinuing the drugs based only on the plaintiff's self-reported medical history without first consulting Soileau's previous physicians. The trial court held, and the appellate court affirmed, that the experts' professional opinions had not gone far enough to establish the duty owed to the plaintiff: "[N]either doctor testified as to the standard of care exercised by a physician practicing in a clinic offering therapy modeled after the Hazelton/Johnston Program."<sup>109</sup> Thus, the court found in favor of the defendant holding that the plaintiff had not established a *prima facie* case of professional negligence.

### *1. Identify the Legally Relevant Group of Professionals*

It would appear that the court was not satisfied with the plaintiff's evidence, in part because the experts were only willing to provide their own prescriptions, but were not willing to identify with certainty the customary standard of care. Perhaps there is another approach to

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108. 539 So.2d 662 (La. Ct. App. 1989).

109. *Id.* at 665. The drugs included Etraphene Forte, Tranxene, Stelazine, and Thorazine.

establishing the standard that would not be frustrated by the expert's unwillingness to establish customary norms. The first step is to select a legally valid sample of physicians to evaluate possible treatment plans. If a legally valid sample of physicians (*i.e.* a sample that satisfies the jurisdiction's requirements for locality, specialty status, and knowledge qualifications) expressed the same opinion as did the experts in *Soileau* that "they would not have removed the plaintiff so abruptly from his antipsychotic medicine,"<sup>110</sup> but rather would have consulted first with the patient's prior physicians, it would be a legitimate inference within the "common knowledge" of the jury to conclude that the opinions of that representative sample of physicians define the customary standard of care.

In Louisiana, a "similar locality rule" jurisdiction, empirical data defining the medical standard of care would only include responses collected from physicians who were familiar with the standard of care in the defendant's community or similar communities under similar conditions. It also appears that the experts must testify to the "degree of care ordinarily exercised and the degree of skill or knowledge ordinarily possessed by physicians within the involved specialty."<sup>111</sup> Thus a legally valid sample of respondents should only include family practitioners and psychiatrists who practice in cities similar in size, urbanization, and available medical technology to Baton Rouge Louisiana, the city in which Cypress Hospital is located.

As the discussion in the early sections of this manuscript points out, the selection of an appropriate sample is a critical issue for any procedure attempting to give an empirical definition to medical standards of care. Data from a sample of respondents that do not satisfy the expert witness criteria of a particular jurisdiction may very well be ruled inadmissible in that jurisdiction. Researchers should carefully select a representative sample of respondents from a legally valid population of physicians.

Samples are most representative to the extent that they are randomly selected from a known population. There are many methods of random selection available and most are discussed in detail in elementary research design textbooks. Most of these techniques require selection by a random number process that identifies potential respondents from a known universe. One approach might be to use a random number table to select some percentage of all physicians of a particular specialty in some well defined geographic area. Lists of addresses and phone numbers of area physicians are available at a small cost from state medical associations. The lists are aggregated according to area and specialty.

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110. *Id.* at 665.

111. *Id.* at 664.

It is worthwhile to note that a potentially serious problem in representative sampling using physician respondents is bias that might be created by nonresponders. One can only speculate about differences between physicians who do or do not elect to respond to requests for interviews or requests to complete questionnaire materials. Perhaps the physicians with the most amount of available time and who are most likely to respond are doctors seeing the fewest patients. One reason that they see fewer patients may be because they are not as well trained as those who have larger practices. If this assumption were an accurate description of reality, then responders to research requests might very well be more representative of less well trained professionals.

On the other hand, it may be that the more conscientious physicians, the ones who keep up with current developments, are more likely to respond to research requests. Under this assumption responders would over represent the better trained physicians. Other biases are also possible. Perhaps academicians are more likely to respond to research requests than are physicians in private practice, presumably because the former are more interested in the research process while the latter are more apt to limit their professional activity to treating patients. In any event, a data collection process that results in a high percentage of nonresponders is suspect to systematic biases that may limit its representativeness.

It is because of the above stated reasons that researchers sampling physician respondents should try to select a small list of representatives of a legally valid population and make every possible effort to obtain a response from each member on the list. Smaller randomly selected samples (in this case perhaps twenty to thirty physicians) with few nonresponders are more representative than larger samples in which the random selection is compromised by a large number of nonresponders. Although the methodology advocated here could potentially be completed through the mail or over the telephone, arranging in-person interviews of approximately one hour in length provides the researcher the opportunity to make concentrated efforts to reach each and every respondent. Respondents are more likely to give their complete attention to the task if it is part of an interview. Therefore, there will be fewer uncompleted surveys discarded by hurried doctors. Further, it is possible to examine potential biases in response patterns by making multiple efforts at interviewing the potential responders. The researcher may compare first contact responders with second and multiple contact responders. The assumption is that multiple contact responders would not have responded had there not been a concentrated effort to obtain their compliance. Therefore, the latter responders more closely resemble the nonresponders than do the first contact responders. Any differences found between the first contact

responders and the multiple contact responders are likely to reflect differences between the responders and nonresponders. The absence of differences may be used as evidence that the responders are not different than the nonresponders.

Another approach to measuring bias is to compare demographic information collected from the responders to any published demographics of the members of the state medical association. If the demographics of the responders are similar to the demographics of the medical association, it is evidence that the data collected defining medical standards of care is representative of responses that might have been collected from the full roster of medical association members.

## *2. Identify the Attribute of Health Care in Dispute*

In any given malpractice case there may be a variety of dimensions of care that are contested or there may only be a single dimension. The dimensions may require separate scaling, or they may be combined into complex aggregates each representing different potential treatment plans. The second step in the model is to analyze the situation in question and determine the specific dimension or dimensions of treatment that are in dispute. Each dimension should consist of at least two different values or treatment options between which the sample of physicians must select a course of action. In *Soileau*, there were 3 specific dimensions of health care in dispute. The first dimension had two options; the second dimension had three options; and the third dimension had two options. These dimensions are:

A. Consulting with other doctors — (1) whether the defendant should have relied solely on the plaintiff's self reported history or (2) whether he should have consulted prior doctors before deciding to discontinue the medications.

B. Reducing medications — (1) whether defendant should have discontinued all the medications at once, or (2) should have systematically removed the drugs one at a time to measure their effects, or (3) should have maintained the plaintiff only on those drugs that he believed were needed to control the patient's mental problems.

C. Prescribing Serax — (1) whether or (2) not Serax should have been prescribed in a tapering fashion.

Identifying the attributes at issue in any decision analysis is exceedingly important for the remaining steps in the analysis. For medical malpractice complaints close consultation with some subset of

experts is crucial if the dimensions sampled are to be sufficient.<sup>112</sup> This subset of experts should constitute a legally valid sample but should not include any physicians who will be asked to complete the decision analytic task used to define the specific standard of care.

### 3. *Identify Alternative Treatment Plans*

The third step in the model requires the researcher to construct alternative treatment plans by combining into separate collections the options that make up each dimension with the options that make up other dimensions. Crossing all dimensions in *Soileau* results in possible treatment plans. These plans range from: (1) the current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician systematically removes the prescribed medications, one at a time, leading ultimately to discontinuation of all unnecessary drugs. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages; to (12) the current physician does not consult with the patient's previous doctor. The physician discontinues all prescribed medications. No additional medications are prescribed. Between the extremes are other combinations listed in Table 1.

### 4. *Determine Separate Utility Functions*

The fourth step requires each of the respondents in the sample to evaluate the probability that he or she would follow each of the treatment plans in the case at bar. Each participant is presented with a description of the pleadings complete with all information necessary to evaluate the appropriateness of each of the alternative treatment plans. In *Soileau* this would include most of the details described above with the exception of information about the specific treatment plans. Next, the analyst would present in a random order all of the treatment alternatives and ask the respondent to order them from the least likely to meet the needs of the patient to the most likely. It is important that the treatment plans be presented in different random orders to avoid systematic carry over effects of one treatment plan upon another. If the treatment plans are presented in random order and each order is different for each respondent, any carry over effects will be different for each physician. The errors introduced by the repeated presentation of treatment plans will balance out across respondents.

The treatment plans would be assigned numbers and placed on the abscissa of a graph upon which the ordinate was marked off in

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112. This and all other technical medical questions that appear in this paper were decided in close consultation with a resident psychiatrist, Dr. Tracy Ware, at St. Louis University Medical Center.

probability units ranging from 0 to 1.00. The respondent, with the help of the analyst, would reorganize the treatment plans on the abscissa in order of the likelihood that the plans will meet the patient's needs. Figure 1 presents a hypothetical utility function for the *Soileau* case. Note that the alternatives arranged on the abscissa are ordered from the least conservative treatment plan to the most conservative.

The respondent would be asked to identify the treatment plan that he or she would be least likely to prescribe for a patient under circumstances similar to those presented in the scenario, and the one that he or she would be most likely to prescribe. Note that the treatment plan that is most conservative may provide more care than is needed. Therefore that plan will not necessarily be the one most likely prescribed. (See CRX in Figure 1.) First, for the treatment plan least likely to be prescribed, the doctor would be asked, "On a scale ranging from .00 to 1.00, what is the probability that you would treat the patient in this manner, given the circumstances described in the accompanying scenario." The respondent would next be asked to answer this question for the most favorable plan and then for all the plans in between. As the physician evaluated each plan his response would be recorded on the graph so that she or he could make any corrections necessary.

In this manner a complete utility function would be established for each of the alternative plans evaluated by the doctor. For example, a hypothetical respondent in *Soileau* might have responded that the probability of discounting all medications based on only the patient's history and not prescribing Serax to ease the detoxification process was only .15. However, the probability of consulting with the patient's prior physician and then only removing in a systematic order, the unnecessary antipsychotic medications while accompanying the detoxification with a prescription of tapered Serax was evaluated at .60. This information could be obtained by carefully examining that physician's utility function.

To check the respondent's answers, the decision analyst might make sure that the doctor believed that he or she would really be twice as likely to follow a treatment alternative rated, at say .50, as compared to one rated at .25. For example, if Figure 1 represented a single utility function collected from only one doctor, that doctor might be asked to confirm that he or she would be twice as likely to follow the plan "HRX" as the alternative "HSX". Adjustments to the utility function could be made to assure that the physician had recorded answers exactly as he or she believed them to be.

After the physician finished the ratings defining that physician's utility function for standard care as it is defined by customary practice, one could ask the doctor to repeat the process, but this time answering a question written to elicit evaluations of accepted care rather than

customary care. Rather than asking for the physician's own utility function, the analyst might ask for ratings portraying how the reasonably prudent physician ought to prescribe treatments. The question posed to the respondent for each treatment alternative might read "On a scale ranging from .00 to 1.00, what is the probability that the reasonably prudent physician would treat the patient in this manner, given the circumstances described in the accompanying scenario." For the purposes of this question the reasonably prudent physician would be defined as one who was trained and well versed in all of the most recent medical technologies available, and who was practicing under normal conditions of temporal, physical, and economic constraints. In order to assure an answer that does not reflect merely a self description, it would probably be necessary to allow the respondent some time to research the problem to come up with a state of the art response. To avoid response biases it may be prudent to sample separate sets of doctors for the purposes of measuring the customary and accepted practice standard.

##### 5. *Aggregate Utility Functions to Develop Norms*

Separately for each question (*i.e.*, the customary standard and the accepted standard questions), the utility functions for each alternative treatment should be averaged across all respondents. Accompanying each mean for each treatment alternative would be the variance, standard deviation, and perhaps confidence interval for that alternative. If a customary standard of care actually exists with regard to the case under investigation it would be evidenced by a peaked average probability greater than .50, indicating that the average respondent would be more likely than not to choose this procedure and with a relatively small standard deviation, indicating a wide range of agreement among physicians. Figure 1 displays the aggregated utility functions for the hypothetical sample of *Soileau* respondents. It would appear from the figure that the customary standard of care in this or a similar situation is to maintain the patient on the necessary medications only after consulting with the patient's previous physicians and to stabilize the patient on a tapering prescription of Serax (CMX — hypothetical mean probability of .52 with a standard deviation of, say only .05). The actual behavior of the defendant, relying only on the patient's self-reported history and discontinuing all medications while trying to stabilize the patient on a tapering dosage of Serax was rated with a much smaller probability, .03. Thus there would be strong evidence to present to a jury showing Bernard's professional conduct falls short of the customary standard of care. If these data had been real responses from a legally valid sample, the aggregate utility function would provide empirical definitions of the customary standard of care for detoxification cases similar to *Soileau*.



Figure 1 also displays the aggregate utility function for the reasonably prudent physician data.<sup>113</sup> The hypothetical example depicts a situation in which the customary standard is different (lower) than the accepted practice standard. Although the law of a jurisdiction might only allow the customary standard to be presented, making available to jurors and thereby future plaintiffs and defendants both standards serves the function of announcing the accepted norms of the medical community. Presumably the doctors should strive for the ideal standard while society, acting through the courts, should accept no care that falls below the customary standard.

I selected a case that was medically uncomplicated and of intrinsic interest to psychology and law scholars to illustrate the decision analytic technique. Nonetheless, the methodology for establishing empirical standards of care is easily translated to any professional negligence claim. It is not limited to any specific specialty and in fact is not limited to medical negligence in general.

The approach has several distinct advantages over the traditional approach of calling one or two medical experts to testify about what they believe is the standard of care in specific circumstances. First, unlike the experts in *Soileau*, physicians need not testify as to what others will do in the situation in question, they only need to testify as what they would do. This approach determines the normative standard by drawing an adequate sample representative of the relevant professional community. Second, such an approach is likely to have less systematic error because it is based on a larger sample size than one or two experts.

Third, the problem of the "conspiracy of silence" is mostly avoided because doctors do not testify expressly against any other physician. It is not necessary for the defendant's identity to be revealed. Nonetheless, one could argue that if physicians become aware that the data is being collected for litigation of a specific case, they may empathize with the unknown defendant and intentionally or unintentionally estimate higher probabilities for treatment plans lower on the acceptability scale than the treatment that was administered by the defendant. Orne<sup>114</sup> refers to the tendency of experiments to provide hints about the hypothesis of the researcher as demand characteristics. To prevent demand characteristics from threatening the validity of the decision survey, the investigator should simply not discuss with the respondent which treatment plan was selected by the actual defendant in the case. If the results of the investigation were to be used as evidence in litigation, all other information relevant to the case, ex-

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113. For the accepted practice standard of care analysis see King, *supra* note 11.

114. Orne, *On the Social Psychology of the Psychological Experiment: With Particular Reference to Demand Characteristics and their Implications*, 17 AM. PSYCHOLOGIST 776 (1962).

cept the defendant's actual treatment plan, should be presented to the respondent.

After the respondent completed the decision task, the defendant's actions could be revealed to the respondent during a debriefing session. This discussion should make it apparent to the reader that in current trials the demand characteristics of the case at bar are likely to be much more powerful than the demand characteristics of the decision survey. Expert witnesses in malpractice cases who testify about customary standards of care are likely to be biased by actions of counsel prior to and during the testimony. The hints present in a decision survey are likely to be less influential than those that are both deliberately and inadvertently infused into the trial process. In fact, it could be argued that a strength of the survey methodology is that it reduces the power of the demand characteristics that are normally a part of litigation.<sup>115</sup>

A fourth advantage is the flexibility of data analysis to treat issues of locality and witness specialty. Compared to the time required to testify at a trial, this research requires only a small amount of each physician's time. It is therefore possible to restrict the data collection to a specific specialty group and "locality" of qualified doctors, but at the same time to sample widely within that population. Alternatively, the researcher may choose to open up the sample to include a wide variety of specialties and locations rather than restricting the population. Statistical analyses could then be conducted to isolate locality and specialty effects and determine if they are sufficiently large to justify limiting the final standard of care curve by locality and specialty.

The final advantage is that the procedure does not assume that there is a consensus for every malpractice complaint. It may well turn out that there is no customary treatment for a particular circumstance. The results may fail to turn up a single option with a high descriptive probability and a low standard deviation. It may even fail to turn up a small range of moderately high probability treatment plans. Instead, it may show that there is no consensus about the standard of care for a particular problem. That is, the data may yield a large number of equal probability alternatives with large variances. Under such a situation it is fair to say that there really is no consensus about treatment. The court then could either rule that the defendant was not negligent because his professional conduct breached no duty of care, or it may rely on the accepted practice standard to rule on a particular case. It would seem that knowledge of this type would

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115. Note that features to control for order effects and carryover effects (i.e., counter balancing procedures) could be built directly into the methodology of this model as could techniques for measuring the reliability of the approach. These issues and more advanced statistical analyses are outside the scope of this article.

cause tort decisions to be based more on social fact and less on social assumption.

## VI. CONCLUSION

I have argued that there is a separate role for psycholegal jurisprudence in the law of negligence, specifically in the area of professional negligence. The law of tort functions not only to serve retributive needs, compensate victims, and deter wrongdoers but also to educate people about the norms of society. With regard to medical malpractice law, the role of moral educator is best served when the law defines standards of care based on a representative sample of legally qualified experts rather than on the testimonies of one or two professionals. Making the implicit standard explicit by decision theory techniques announces to future plaintiffs, defendants, and lawyers what the common law requires from physicians. It instructs the physicians and at the same time motivates them to achieve the standards set out in the symbols of the law. Perhaps, most importantly the standards are suggested by the consensus of physicians with the assistance of social scientists. While the courts retain the final decision about standards, the content of the standards are not based on the opinions of one or two experts, nor is the content determined by judges, jurors, or social scientists. The norms would represent the collective judgment of a community of professionals summarized by researchers and evaluated by judges and jurors. In short they would reflect the interests of the profession as well as the society at large.

Empirical standards of care have implications for applications as well as research. Consider first some of the possible applications in the litigation process. Establishing predictable standards would assist lawyers during preparation and courtroom stages of a case. Attorneys would be able to evaluate the worth of a case with more ease if there was a collection of empirically determined standards of care available for their inspection. A lawyer would simply need to identify a standard based on case facts similar to the one at bar, and compare the professional conduct of her or his client to the available empirical standards. Evaluation of the strength of any case would be much more certain at the early stages of litigation.

If insurance companies were aware of the empirical and accepted standards of care for common areas of litigation, they would be able to better predict the outcomes of suits and would be more likely to settle in cases where the prospects of winning were weak. At the same time, the insurance companies would know when it was wise to bring the cases to trial based on an inspection of empirical standard tables. The result of such knowledge would likely reduce the costs of malpractice litigation and thus lower the insurance premiums paid by physicians.

In the long run this strategy could have a significant impact on alleviating the crisis of affordability.

The uncertainties of proffering expert witnesses would be greatly reduced if evidence collected by decision surveys was used to supplement the testimonies of independent physicians. Having investigated and documented the standard of care for the case at bar, counsel for the plaintiff and/or defense would be secure in their knowledge of professional custom. Direct and cross examinations of expert witnesses could be guided and directed toward the data collected in the decision survey. Attorneys who were more informed about customary practice would be at a distinct advantage compared to those who relied only on the opinions of one or two experts.

Finally, and perhaps most interestingly from the viewpoint of the social scientist, empirical standards of care open up a new and exciting area of theory and research. Questions about which factors influence evaluations of the standards of care and differences in physician utility functions as a result of education, background, gender, empathy, locality, and urbanization are just a sample of legally relevant and psychologically meaningful problems. Theories of decision making that focus on cognitive structures of physicians, the influence of prior information, and cognitive availability could be brought to bear on these legally relevant issues. The purpose of this manuscript was to raise some legally relevant questions and suggest a decision analytic methodology capable of providing some answers. The challenge to conduct the research is, as always, left to the ingenuity of individual social scientists.

TABLE 1  
*TWELVE TREATMENT PLANS AVAILABLE TO  
PHYSICIANS IN THE SOILEAU SCENARIO*

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Initial Treatment (included in all 12 plans)

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The physician took a complete medical history from the patient and learned that he had a long history of mental and physical ailments, treatments, and hospitalizations. The patient reported that he currently and for the past five years had been taking four prescribed medicines: Etraphon Forte, Tranxene, Stelazine, and Thorazine. During the interview the patient appeared calm and alert and showed no symptoms of psychotic behavior.

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1. The current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician systematically removes the prescribed medications, one at a time, leading ultimately to discontinuation of all unnecessary drugs. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (CRX)
  2. The current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician maintains the patient only on those prescribed medications that the physician believes, based on his best medical judgment, are needed to control his mental problems and discontinues the others. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (CMX)
  3. The current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician discontinues all the prescribed medications. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (CSX)
  4. The current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician systematically removes the prescribed medications, one at a time, leading ultimately to discontinuation of all unnecessary drugs. No additional medications are prescribed. (CRN)
  5. The current physician consults with the patient's previous doctor and learns that the patient is a diagnosed schizophrenic. The physician maintains the patient only on those prescribed medications that the physician believes, based on his best medical judgment, are needed to control his mental problems and discontinues the others. No additional medications are prescribed. (CMN)
  6. The current physician consults with the patient's previous doctor

and learns that the patient is a diagnosed schizophrenic. The physician discontinues all the prescribed medications. No additional medications are prescribed. (CSN)

7. The current physician does not consult with the patient's previous doctor. The physician systematically removes the prescribed medications, one at a time, leading ultimately to discontinuation of all unnecessary drugs. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (HRX)

8. The current physician does not consult with the patient's previous doctor. The physician maintains the patient only on those prescribed medications that the physician believes, based on his best medical judgment, are needed to control his mental problems and discontinues the others. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (HMX)

9. The current physician does not consult with the patient's previous doctor. The physician discontinues all prescribed medications. For the purpose of easing the detoxification process the doctor prescribes Serax in tapered dosages. (HSX)

10. The current physician does not consult with the patient's previous doctor. The physician systematically removes the prescribed medications, one at a time, leading ultimately to discontinuation of all unnecessary drugs. No additional medications are prescribed. (HRN)

11. The current physician does not consult with the patient's previous doctors. The physician maintains the patient only on those prescribed medications that the physician believes, based on his best medical judgment, are needed to control his mental problems and discontinues the others. No additional medications are prescribed. (HMN)

12. The current physician does not consult with the patient's previous doctor. The physician discontinues all prescribed medications. No additional medications are prescribed. (HSN)

Note: Abbreviations and/or numbers associated with each treatment plan correspond with labelled treatment plans in Figure 1.

FIGURE 1.  
AGGREGATE PROBABILITY FUNCTIONS FOR  
HYPOTHETICAL EVALUATIONS OF  
TREATMENT PLANS.

Aggregate Probability Functions  
Hypothetical Data

